

EASTERN COTTONWOOD

Populus deltoides Bartr. ex
Marsh.
Plant Symbol = PODE3

Contributed by: USDA NRCS Plant Materials
Program



Robert Mohlenbrock
USDA NRCS 1995 Northeast Wetland Flora
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Uses

Timber: The wood of eastern cottonwood is light, soft, and weak. It is not durable, warps badly in drying, and is difficult to season. It is used principally for containers, interior parts of furniture, corestock in plywood, and high-grade pulp.

Erosion control: It is planted on strip mine spoils for erosion control and wood production. Male, non-hybrid adapted clones make good selections for windbreaks in multi-row installations.

Recreation: Due to its rapid growth rate, it is frequently used for providing quick shade around recreational developments, campsites and picnic areas.

Landscape and beautification: This species is occasionally planted as an ornamental shade tree, however caution should be used because the tree grows large and is susceptible to wind and ice damage.

Wildlife: Seedlings and young trees are browsed by rabbits, deer, and domestic stock. Beavers use saplings and poles for food and dam construction.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

Populus deltoides Bartr. ex Marsh., eastern cottonwood, is a fast-growing tree which reaches 80 to 100 feet in height and 3 to 4 feet in diameter. It is a relatively short-lived tree, seldom surviving for more than 80 years.

The leaves are broadly triangular, ovate in outline, 3 to 5 inches long and nearly as wide. They are dark green, lustrous above, and paler and smooth beneath. The marginal teeth are somewhat hooked, being larger toward the leaf base and smaller toward the pointed tip.

Twigs are rather stout, round, and distinctly enlarged at the nodes. The conical, pointed buds are smooth, glossy, and olive-brown to reddish-brown in color. The bark of younger trees is rather smooth and greenish-gray. On older trunks it becomes ashy-gray and is roughened by long, deep, longitudinal and interconnecting furrows.

Adaptation and Distribution

Cottonwood makes its best growth on moist, well-drained, fine sandy loams or silt loams. Coarse sands and heavy clay soils are not satisfactory. It has been found to be relatively tolerant of drier sites as shown by survival and growth of trees planted on strip mine spoil. Cottonwood is resistant to flood damage and usually tolerates a soil pH range of 4.5 to 8.0.

Eastern cottonwood is distributed throughout the East and Midwest. For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Natural regeneration of cottonwood is usually by seed. Propagation by cuttings is the usual method of vegetative reproduction. The best planting stock is unrooted cuttings from 1 to 3 year old seedlings.

Cuttings are planted while dormant with sufficient cultivation to reduce competition.

Management

If this tree is planted for intensive culture management care must be taken to reduce completion from weed and other unwanted vegetation. On wide spacing, disking between the rows can be used to control vegetation. Care must also be taken to avoid over grazing by deer and other animals. Around buildings the plant may prove to be a nuisance. The silky-haired seeds of the female plants can clog gutters and the shallow root system may interfere with sewer lines.

Pests and Potential Problems

Eastern cottonwood can be seriously damaged by wood boring insects that attacks the main stem, branches and root system. Many leaf feeding insects can also reduce the growth and vigor of young trees. Leaf rust, leaf spot, and cankers reduce tree vigor and growth and in severe cases cause tree mortality.

Cultivars, Improved, and Selected Materials (and area of origin)

‘Siouxland’ cottonwood, is highly resistant to leaf rust and similar leaf attacking fungi. ‘Siouxland’ is a male plant, and therefore, does not produce the silky-haired "cotton" which many people consider a nuisance. Since there is no seed, the plant must be grown from cuttings.

Populus robusta, which is most likely a cross between *Populus nigra* and *Populus angulata*, is very similar to ‘Siouxland’ in appearance except that it is narrower and branches more widely. The foliage is also resistant to rust fungi. *Populus robusta* is a frost hardy, rapid grower. Other selections include ‘Noreaster’, ‘Mighty Mo’, ‘Platte’, ‘Ohio Red’, ‘Lydick’, ‘Schictel’, ‘Spike’(cross between *Populus deltoides* and *Populus nigra*, from the New York Plant Materials Center, original material from the Netherlands) and ‘Walker’. These selections show various levels of resistance from leaf rust and canker infestations.

Rooted cuttings and seedlings of ‘Siouxland’ and *Populus robusta* can be purchased from many hardwood nurseries. Other selections are more difficult to obtain, but worth the effort.

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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